

REMARKS

I. Introduction

Upon entry of the present amendment, claims 1-39 will be pending in this application. Applicant has amended claims 1 and 25 to clarify that the metals are heated at a temperature at or above the temperature at which the first and second metals bond with one another. Support for this amendment appears in the specification at least at page 18. This amendment clarifies the claims and acknowledges that metals may bond without being melted.

Claim 10 has been amended to clarify that the heating temperatures may be between about 780°C to about 1100°C. Support for this amendment appears in the specification at least at pages 14 and 18. The heating temperature can vary depending upon the materials chosen, but the temperature should be sufficient to cause at least a portion of the second metal to bond to the first metal.

Applicant has also added new claims 32 and 33, which are product claims that correspond to previously added claims 30 and 31. Support for these claims appears in the specification at pages 1, 2, 4, 5, 7, and the abstract. Applicants have also added new claims 34-39 that define a certain embodiment of the invention. Support for these claims appears in the specification at pages 16-17. No new matter has been added.

Applicant believes that the Examiner's objections to the abstract and the title will be considered moot in light of the below arguments about the previously-issued restriction requirement.

II. Restriction Requirement

The Examiner has withdrawn claims 13-24 from consideration as being directed to a non-elected invention. It remains unclear to Applicant why the Examiner has required restriction of the invention between the product claims and the method claims.

The method claims recite “depositing” certain layers onto a diamond component. The product claims recite a diamond component having the recited layers disposed thereon. The Examiner has taken the position that “the product can be made by a different process such as CVD.” However, the specification states that the deposition of the metal layers can be performed by “vacuum deposition methods such as magnetron sputtering, thermal or electron beam evaporation, ion plating or CVD.” See specification at page 6. In other words, the “depositing” steps recited by the method claims include CVD, and by definition, the claimed product (made, for example, by CVD) is not a product made by a materially different process than the claimed process. Accordingly, Applicants respectfully request the Examiner to reconsider his position and withdraw the restriction requirement.

II. Claim Rejections – 35 U.S.C. 103(a)

The Examiner has rejected claims 1-12 and 25-31 under 35 U.S.C. 103(a) as being unpatentable over Gigl et al. (U.S. Patent No. 4,738,689). The Examiner states that Gigl discloses a method of forming a coated oxidation-resistant diamond compact in which a diamond compact is subjected to a coating process. The Examiner further states that metal coatings such as chromium, copper, tungsten, molybdenum, tantalum, and niobium are formed either singly or in successive layers, but admits that the reference fails to teach the appropriate sequence. The Examiner’s position is that one skilled in the art would expect that any metal can be used and still produce an oxidation-resistant product and that it would

have been obvious to select the claimed sequence with the expectation of obtaining similar results. Applicant respectfully traverses this rejection and requests reconsideration and withdrawal thereof.

First, to rely on a reference under 35 U.S.C. § 103, it must be analogous art. See MPEP 2141.01(a). “In order to rely on a reference as a basis for rejection of an applicant’s invention, the reference must either be in the field of applicant’s endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned.” See In re Otiker, 977 F.2d 1443, 1446 (Fed. Cir. 1992). The Gigl reference, however, is not in the field of Applicant’s endeavor or related to the problem sought to be solved by the invention.

The Gigl reference is directed toward producing an oxidation-resistant product. The diamond described is for use as a cutting section on tools. The coating is merely provided to enhance the oxidative resistance of the porous polycrystalline masses of diamond particles.

By contrast, Applicant’s invention relates to providing a brazeable diamond product for use in the microelectronic industry. The layers that are disposed on the diamond are provided to achieve a robust method for attaching diamond into electronic packages and to enhance thermal management to prolong the life of microelectronics packages. This is an entirely different field of endeavor from the Gigl reference’s teaching of an oxidation-resistant cutting tool, and as such, the Gigl reference is not appropriate for use as prior art against the present invention.

Second, even if the Gigl reference were available as prior art, it does not anticipate or render the present invention obvious for a number of reasons. The diamond of the Gigl reference is a porous polycrystalline diamond compact which is composed of individual

diamond particles that are sintered together in a manner that leaves the diamond body with voids or pores in between the individual diamond particles. By contrast, the diamond of Applicant's invention is a brazeable diamond component, which in most cases is a CVD diamond, known in the art to be a dense, void-free, non-porous polycrystalline diamond structure.

Additionally, the Gigl reference simply does not teach or suggest the claimed layers nor depositing the claimed metals in the claimed order to provide the claimed product or method of making the product. As such, the Examiner has failed to establish a *prima facie* case of obviousness.

CONCLUSION

For at least the above reasons, Applicant respectfully requests allowance of claims 1-39 and issuance of a patent containing these claims in due course. If there remain any additional issues to be addressed, the Examiner is urged to contact the undersigned.

PETITION FOR EXTENSION OF TIME

Pursuant to 37 C.F.R. 1.136(a), Applicant herewith petitions that the period for response to the Office Action dated February 13, 2003 in connection with the above-identified application be extended for one month(s), to and including June 13, 2003. A check for this fee is enclosed. The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to Deposit Order Account No. 11-0855.

Respectfully submitted,



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